

***United States Court of Appeals
for the Second Circuit***



EXHIBITS

76-7608

United States Court of Appeals

FOR THE SECOND CIRCUIT

No. 76-7608

B

P/S

In the Matter of

The Complaint of TUG HELEN B. MORAN, INC., as owner,
and MORAN TOWING & TRANSPORTATION Co., INC., as
chartered owner, of the Tug DIANA L. MORAN for ex-
oneration from or limitation of liability,

Plaintiffs,

MORAN TOWING & TRANSPORTATION Co., INC.,

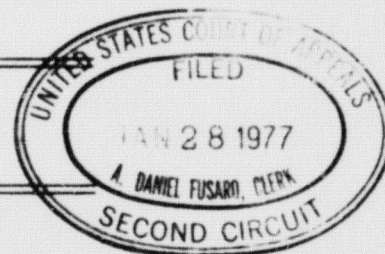
Plaintiff-Appellant,

STATE OF CONNECTICUT,

Claimant-Appellee.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

JOINT EXHIBIT VOLUME



BURLINGHAM UNDERWOOD & FORD
*Attorneys for Moran Towing &
Transportation Co., Inc.*
One Battery Park Plaza
New York, New York 10004

BIGHAM ENGLAR JONES & HOUSTON
Attorneys for State of Connecticut
99 John Street
New York, New York 10038

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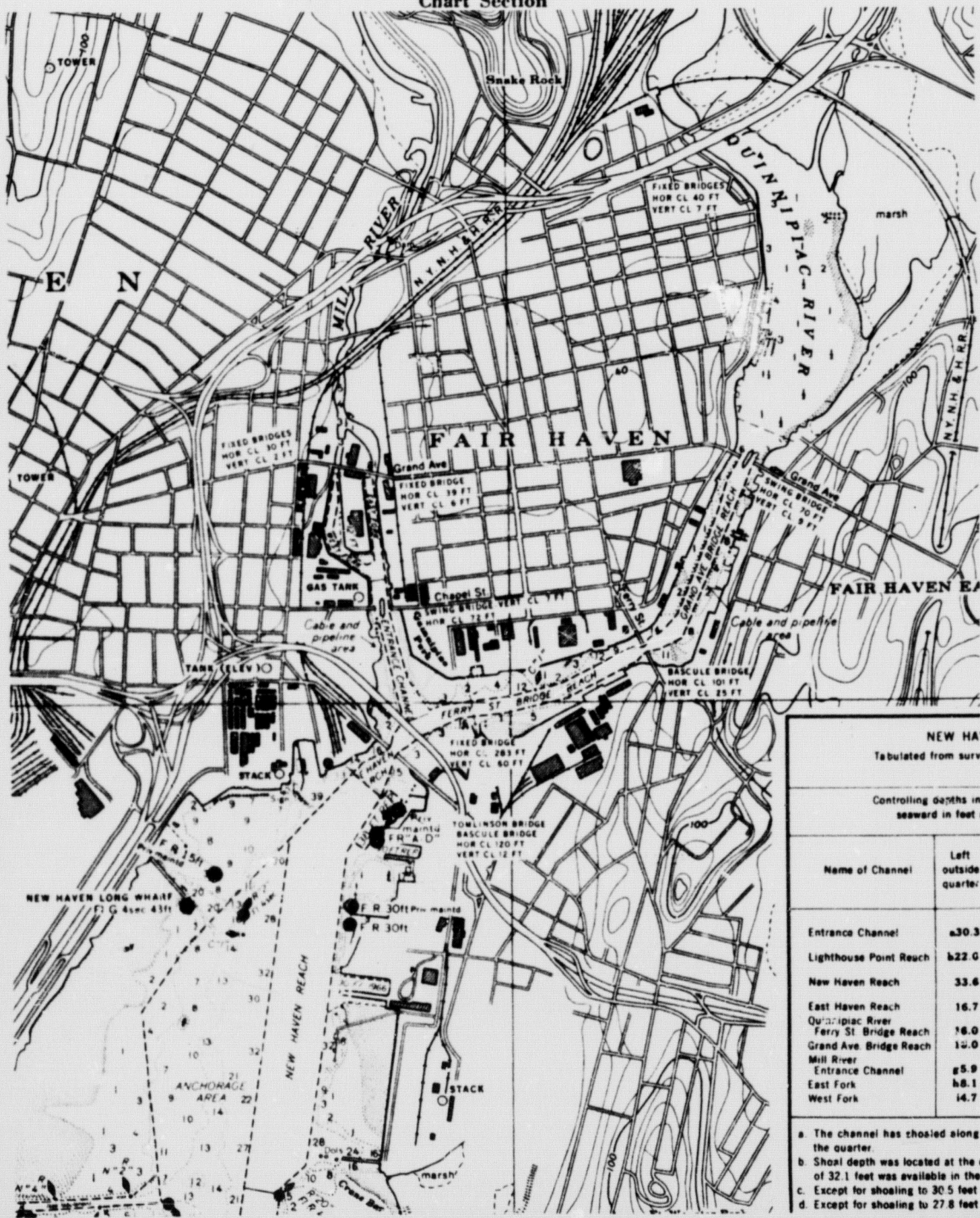
MORAN EXHIBITS

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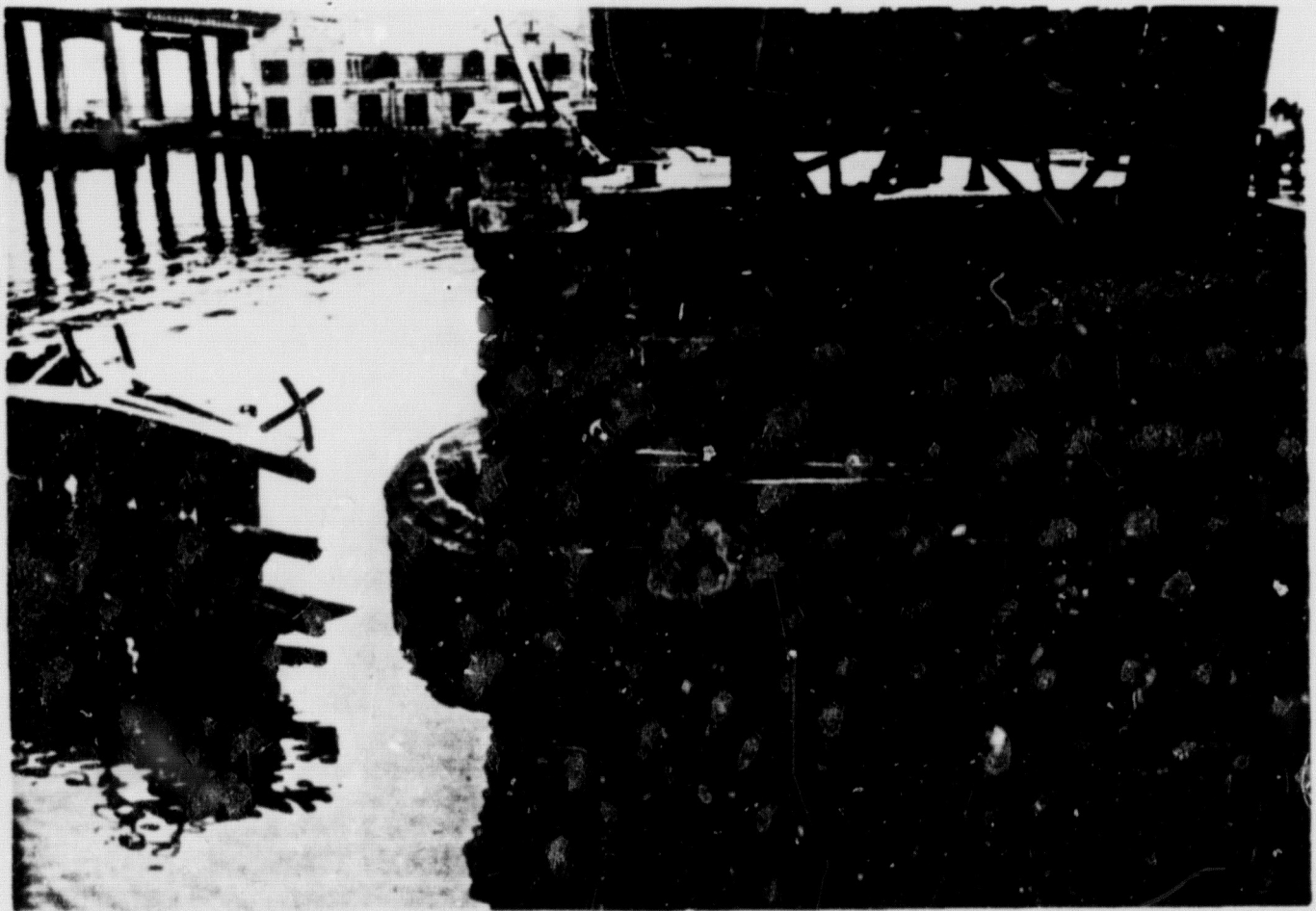
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Exhibit 13

Fijol Memorandum

Mr. Kenneth W. Tadford	Highway Department Unit	July 3, 1973
Assistant Attorney General	State Office Building, Hartford	
Mr. E. J. Fijol	Department of Transportation	
Highway Associate Engineer	Bureau of Highways - Consultant Design Section	
New Haven - Tomlinson Bridge - Projects 92-160 & 92-204		

As requested by your memorandum of June 26, 1973 to Mr. William Lynch, the Bridge Liaison Section has checked various sources for the requested bascule openings.

The original contract plans call for a possible opening of 82°. However, restrictions in the pit area as constructed, would make such an opening impossible.

The bascule span openings are controlled by limit switches which are set at an opening of 67°. This is and has been for many years the normal bascule opening for this structure.

The damaged quarter of the bascule span has been raised to an opening of between 73° to 76° by overriding the limit switch and applying cable to maintain the position. This is, however, far from normal operating procedure.

Should you have any further questions relative to this information, please contact Mr. Daniel L. Coffey, Bridge Liaison Section, Telephone 566-3857.

E. J. Fijol
DEC

Maran (Fijol copy) 1/1/64
1/1/74-77

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E-5
Exhibit 17

Stipulation re Permit and Plans

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

----- X
: STIPULATION
:
In the Matter : 72 Civ. 4633
:
- of - :
:
The Complaint of Tug Helen B. Moran, Inc., Judge Lasker
as Owner and Moran Towing & Transportation:
Co., Inc. as chartered owner of the Tug
DIANA L. MORAN, for Exoneration From or :
Limitation of Liability. :
:
----- X

IT IS HEREBY STIPULATED AND AGREED by and between
counsel for plaintiffs Tug Helen B. Moran, Inc. and Moran
Towing & Transportation Co., Inc. and counsel for the State
of Connecticut that:

- I. Document 1 annexed hereto, entitled "Approval of
Location and Plans of Bridge", is the Permit for
the construction of the Tomlinson Bridge.
- II. Documents 2, 3 and 4 annexed hereto, are the
"attached plans" which are referred to in the
Permit in I. above as "approved by the Chief of
Engineers and by the Secretary of War".

Dated: New York, New York
July , 1975

Burlingham Underwood & Lord
Attorneys for Plaintiffs

By Robert B. Pohl
A Member of the Firm

Bigham, Englar, Jones & Houston
Attorneys for State of Connecticut

By Donald M. Wacoche Jr.
A Member of the Firm

THE PERMIT

ENGINEER OFFICE
New Haven, Conn.
July 1, 1922

APPROVAL OF LOCATION AND PLANS OF BRIDGE.

(Authorized by State Legislature)

Reported July 1, 1922

No 262

N.H.H. 22

WHEREAS, By Section 9 of an act of Congress approved March 3, 1899, entitled "An act making appropriations for the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes," it is provided that bridges, dams, dikes or causeways may be built under authority of the legislature of a State across rivers and other waterways the navigable portions of which lie wholly within the limits of a single State, provided the location and plans thereof are submitted to and approved by the Chief of Engineers and by the Secretary of War before construction is commenced;

And whereas, THE CITY OF NEW HAVEN, CONN.

has submitted plans and a map of the location of a bridge to be constructed across Quinnipiac River, at New Haven,

in the State of Connecticut,

under authority of the legislature of said State, which plans and map of location are hereto attached;

Now therefore, This is to certify that the location and attached plans of said bridge are hereby approved by the Chief of Engineers and by the Secretary of War, pursuant to the above-mentioned provision of the act of March 3, 1899, subject to the following conditions:

1. That the District Engineer of the Engineer Department at large in charge of the district within which the bridge is to be rebuilt may supervise its construction in order that said plans shall be complied with.

2. That all work shall be so conducted that the free navigation of the river shall not be unreasonably interfered with; that the present navigation shall not be impaired; and that the channel or channels through which the river flows shall be promptly cleared of all falsework, piling, or other obstructions therein or caused by the construction of the bridge, to the satisfaction of said district engineer, when in his judgment the construction work has reached a point where such action should be taken, and in any case not later than 30 days after the bridge has been opened to traffic.

3. That the approval hereby given shall cease and be null and void unless the actual construction of the bridge be commenced within one year and completed within three years from the date of this instrument.

4. That during the reconstruction of the bridge a clear opening for navigation not less than 80 feet in width measured at right angles to the channel and at least 12 feet deep at mean low water shall be available at all times.

Witness my hand this

day of

1922

Chief of Engineers

Witness my hand this

day of

1922

Secretary of War

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Design - Joseph Hoffman - No. 17 - July 1, 1922 - New Haven, Conn.

info

4/1

The Permit

5. That during the period of construction the owner of the bridge shall, upon reasonable notice from the master, owner, or agent of any vessel exceeding 125 feet in length, furnish a tug to assist such vessel through the navigation opening of the bridge.

6. That the city of New Haven shall provide and maintain a channel through the draw opening of the new bridge and for a distance of 100 feet above and 100 feet below the center line of the bridge, to the full width of the draw opening with a depth of not less than 20 feet at mean low water.

7. That the city of New Haven shall provide and maintain through the fixed spans of the bridge and for a distance of 50 feet above and 50 feet below the center line of the bridge the depths indicated on the plan hereto attached as "Proposed river bottom".

WITNESS my hand this 20th day of June, 1922.

H. Taylor,
Brigadier General, Corps of Engineers,
Acting Chief of Engineers.

WITNESS my hand this 20th day of June, 1922.

J. M. WAINWRIGHT,
The Assistant Secretary of War.

Copying - Division of Engineers - No. 1174 - Feb. 1923

OVERSIZE FOLDOUT(S) FOUND HERE IN
THE PRINTED EDITION OF THIS VOLUME
ARE FOUND FOLLOWING THE LAST PAGE
OF TEXT IN THIS MICROFICHE EDITION.

SEE FOLDOUT NO 1

SKETCH DRAWN FROM DIMENSIONS SHOWN AND SCALED FROM
COPY OF PLANS FOR TOMLINSON BRIDGE APPROVED BY THE
CHIEF OF ENGINEERS AND THE ASSISTANT SECRETARY OF
WAR ON 26 JUNE 1922, WHICH SPECIFIED AN EXPECTED
HORIZONTAL OPENING OF 126' AT THE TOP OF THE RAISED
BASCULE LEAVES WHICH IS ACCOMPLISHED BY ELEVATING
THE LEAVES TO 32 .

WITH THE LEAVES RESTRICTED BY LIMIT SWITCHES TO 67
THEY PROVIDE UNLIMITED VERTICAL CLEARANCE FOR ONLY
THE CENTER 38' (SCALED) OF THE DRAW INSTEAD OF THE
126' AS APPROVED.

T O M L I N S O N B R I D G E

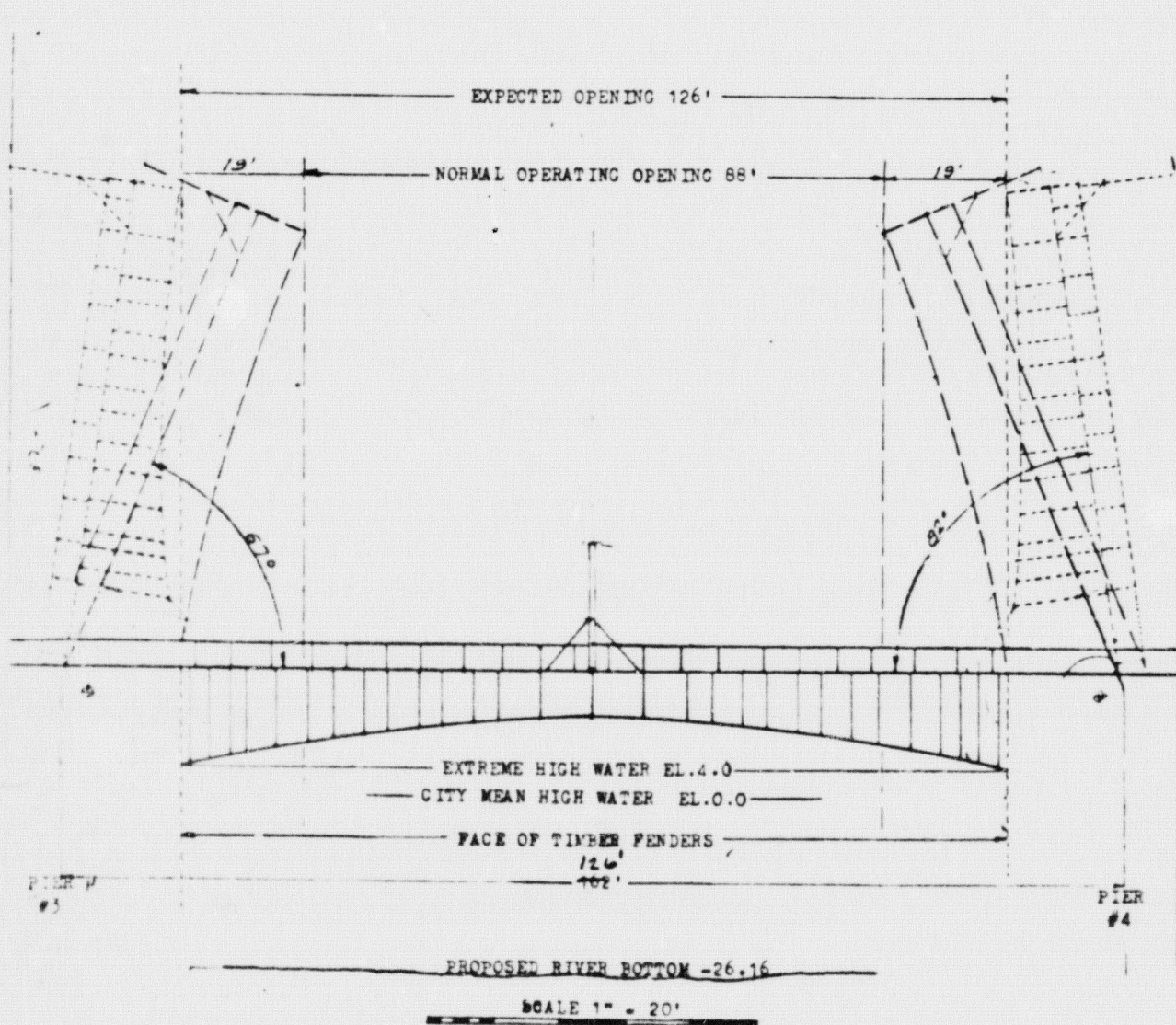
OVER
QUINNIPIAC RIVER
AT
FORBES AVENUE - NEW HAVEN, CONN.
BASCULE CLEARANCES

Sketch of Elevated Leaves

Exhibit 35

E 10

F. 11
Exhibit 35
Sketch of Elevated Leaves



1

SKETCH DRAWN FROM DIMENSIONS SHOWN AND SCALED FROM
COPY OF PLANS FOR TOMLINSON BRIDGE APPROVED BY THE
CHIEF OF ENGINEERS AND THE ASSISTANT SECRETARY OF
WAR ON 26 JUNE 1922, WHICH SPECIFIED AN EXPECTED
HORIZONTAL OPENING OF 126' AT THE TOP OF THE RAISED
BASCULE LEAVES WHICH IS ACCOMPLISHED BY ELEVATING
THE LEAVES TO 82'.

WITH THE LEAVES RESTRICTED BY LIMIT SWITCHES TO 67
THEY PROVIDE UNLIMITED VERTICAL CLEARANCE FOR ONLY
THE CENTER 88' (SCALED) OF THE DRAW INSTEAD OF THE
126' AS APPROVED.

T O M L I N S O N B R I D G E
OVER
QUINNIPIAC RIVER
AT
FORBES AVENUE - NEW HAVEN, CONN.
BASCULE CLEARANCES

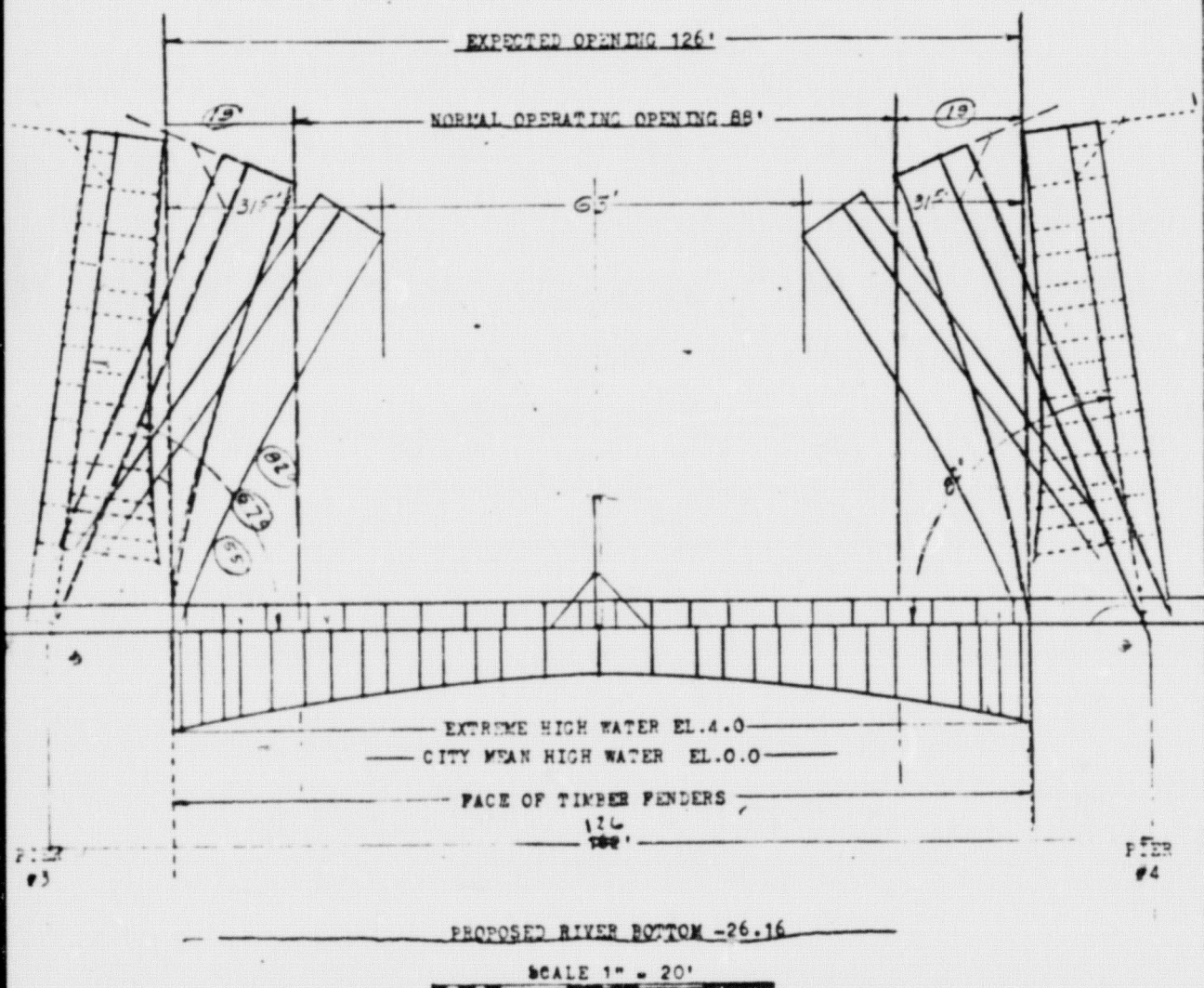
Another Sketch of Elevated Leaves

Exhibit 35A

FIG

Another Sketch of Elevated Levees

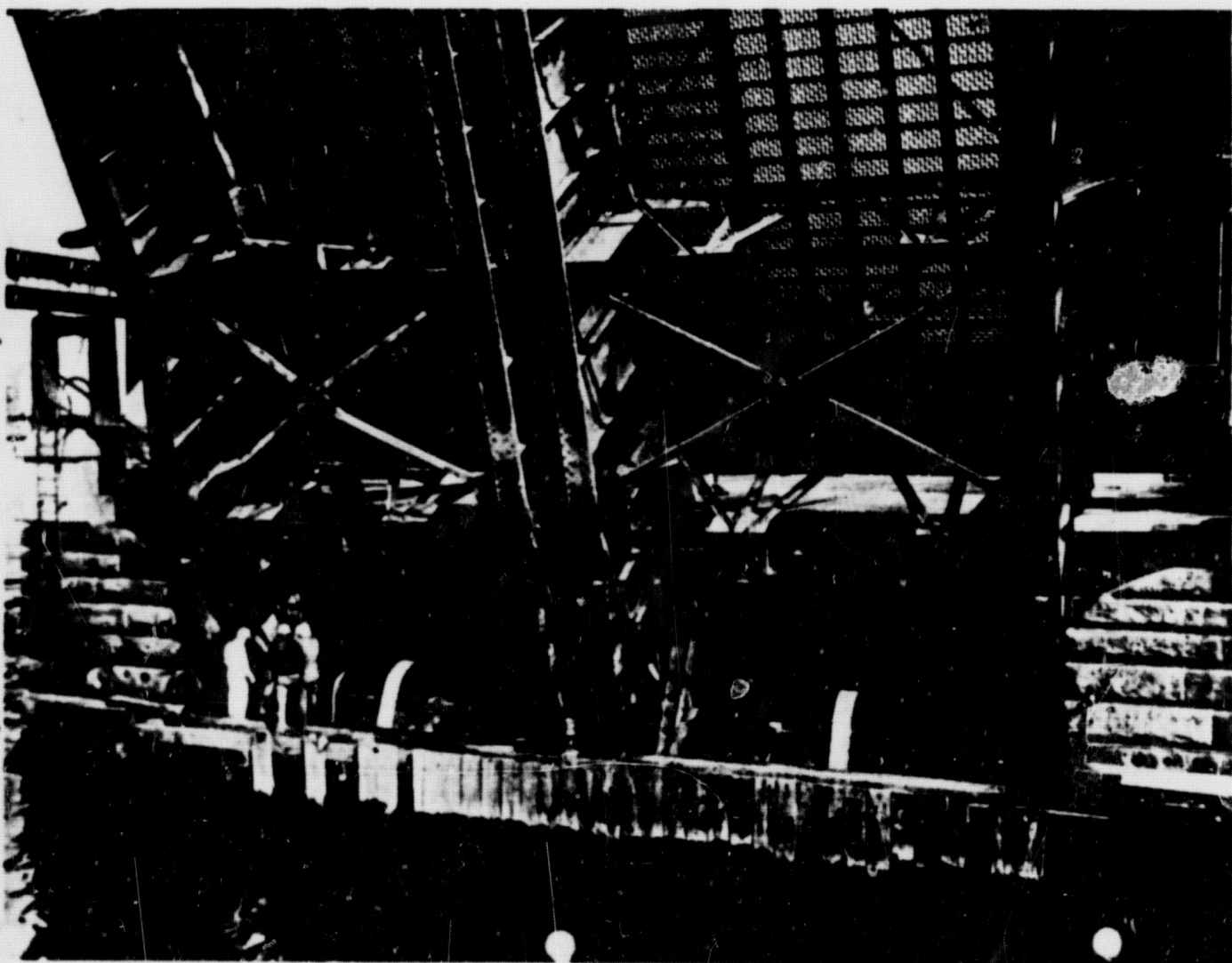
E-13
Exhibit 35A

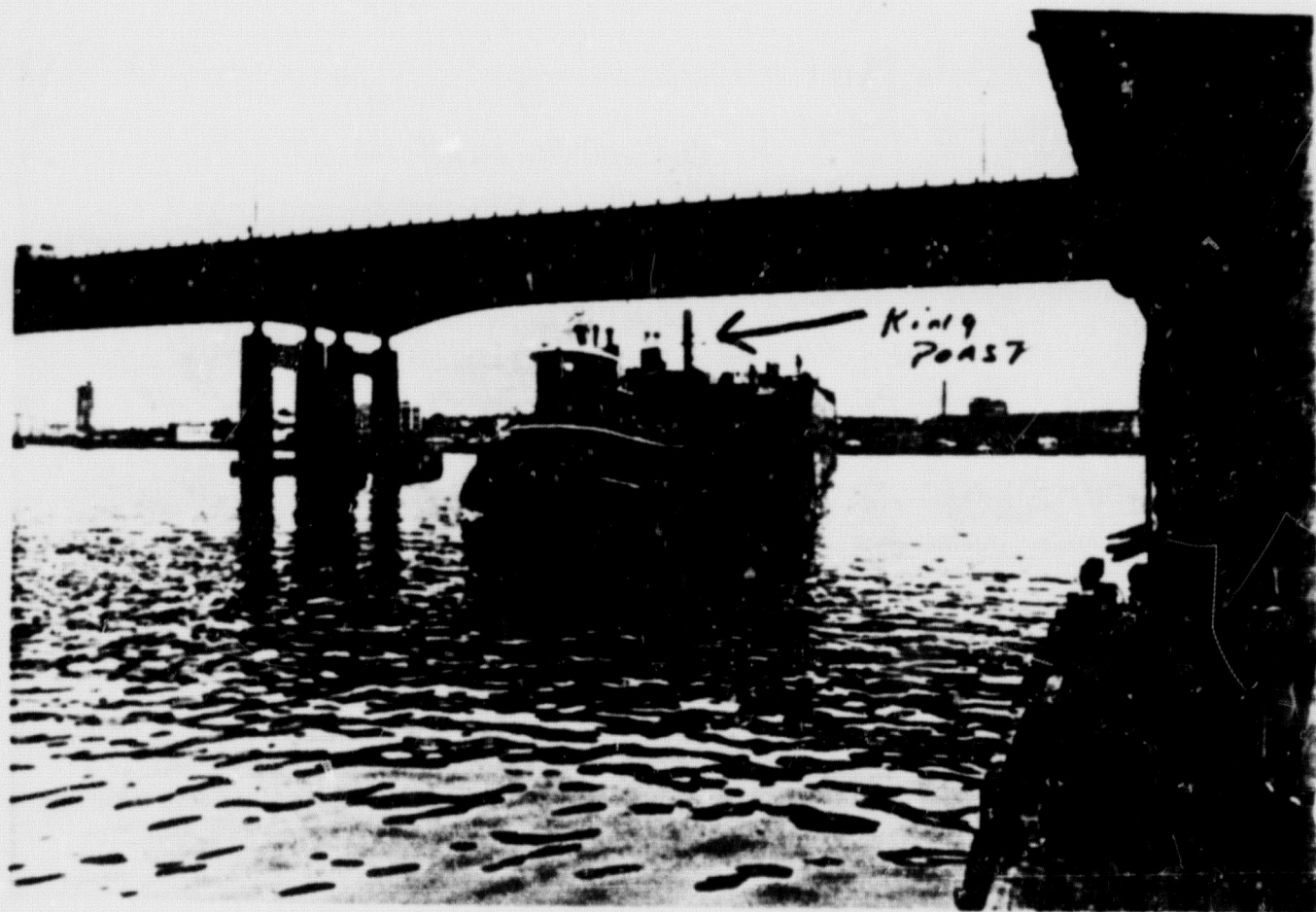


Underside of Eastern Leaves

Exhibit 37

E 14

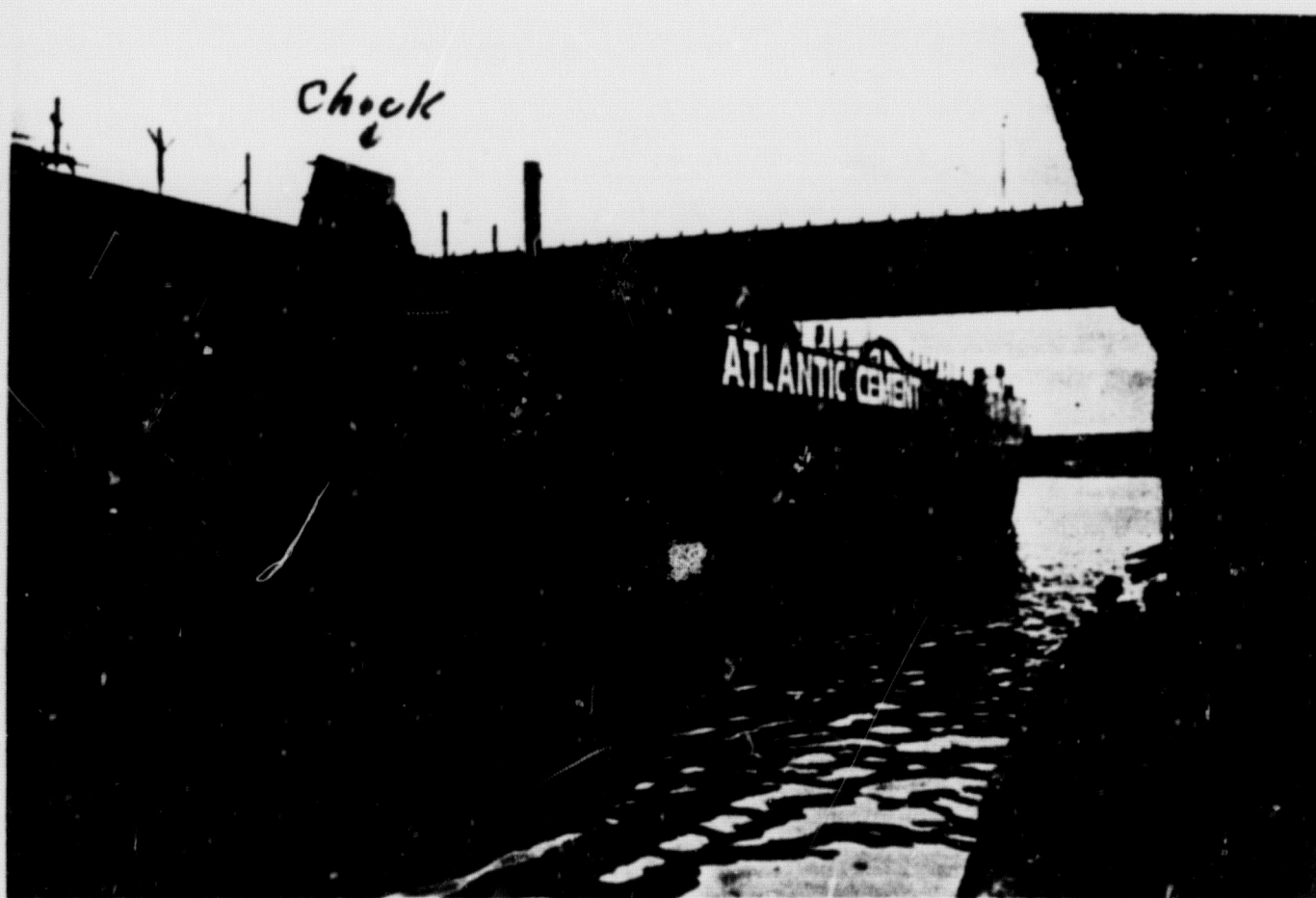




Barge Transiting Draw (another occasion)

Exhibit 47

E-15



Barge Transiting Draw (another occasion)

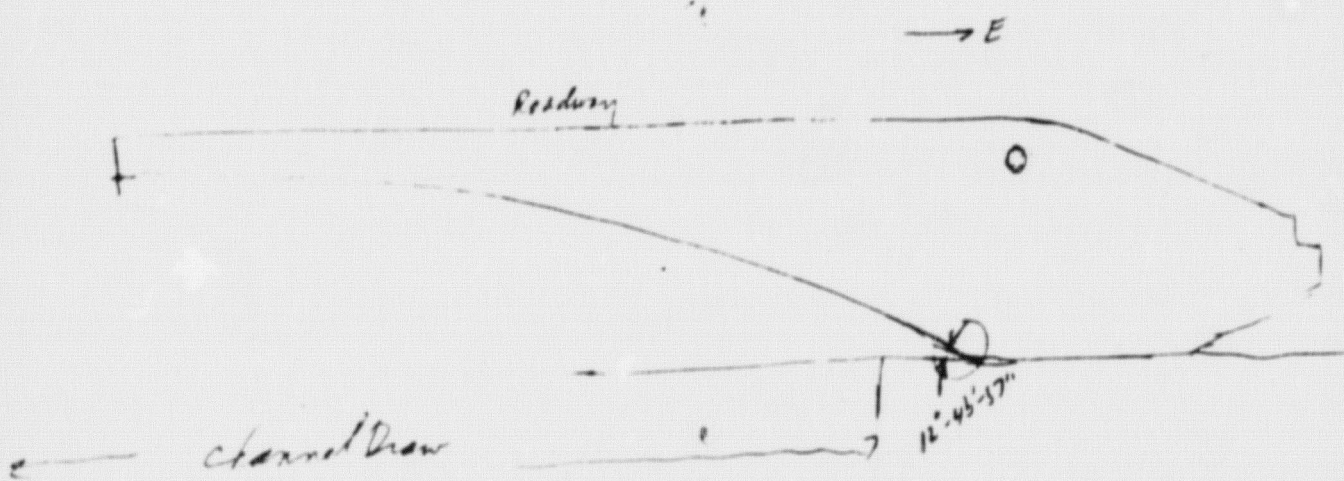
E-16
Exhibit 48

PART OF CHECK



Large Transiting Draw (another occasion)

E-17
Exhibit 19

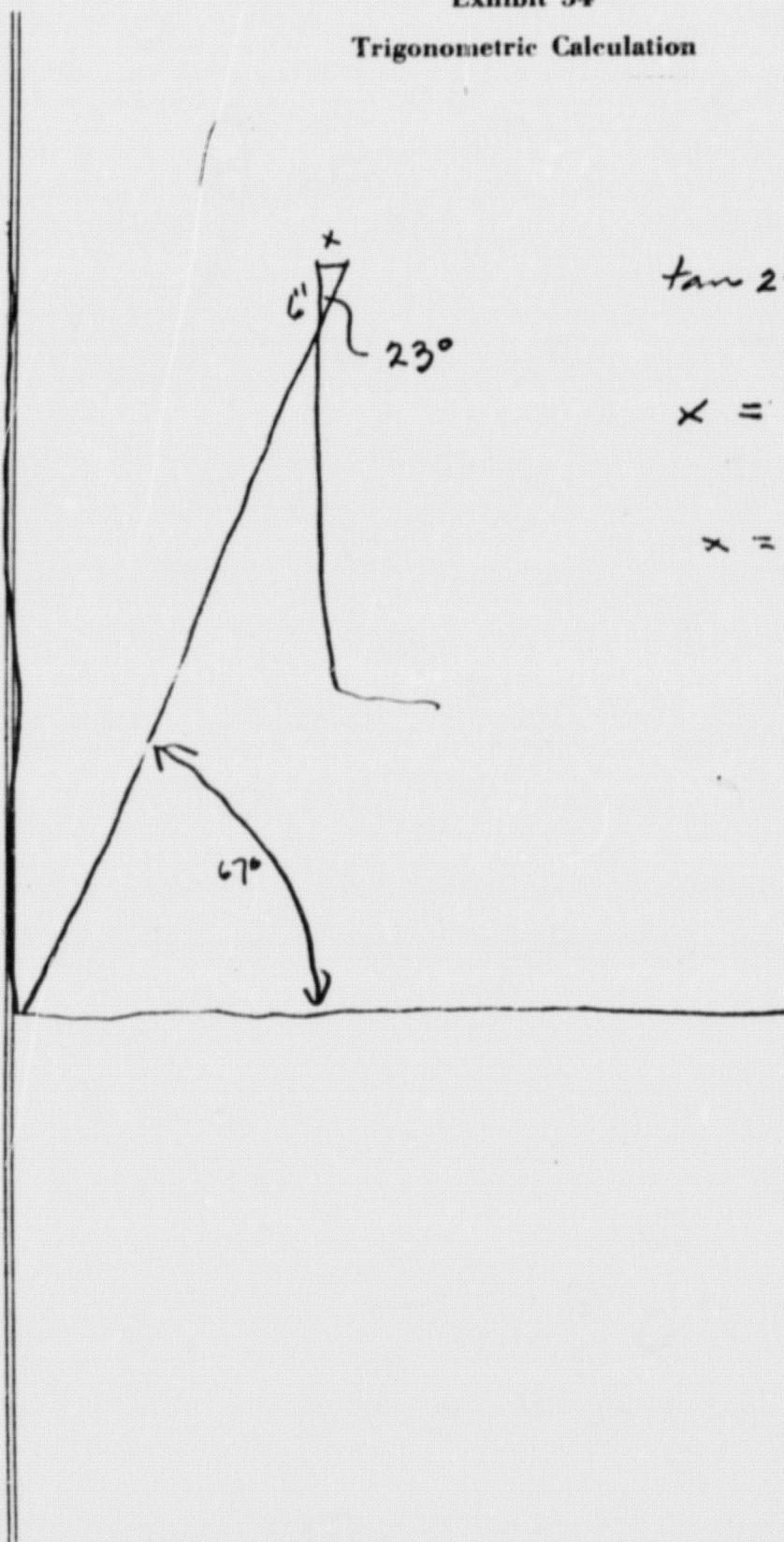


E-18
Exhibit 50
Sketch of Bridge Layout

E-19

Exhibit 54

Trigonometric Calculation



$$\tan 23 = \frac{x}{6}$$

$$x = 6 \times \tan 23^\circ$$

$$6 \times .424$$

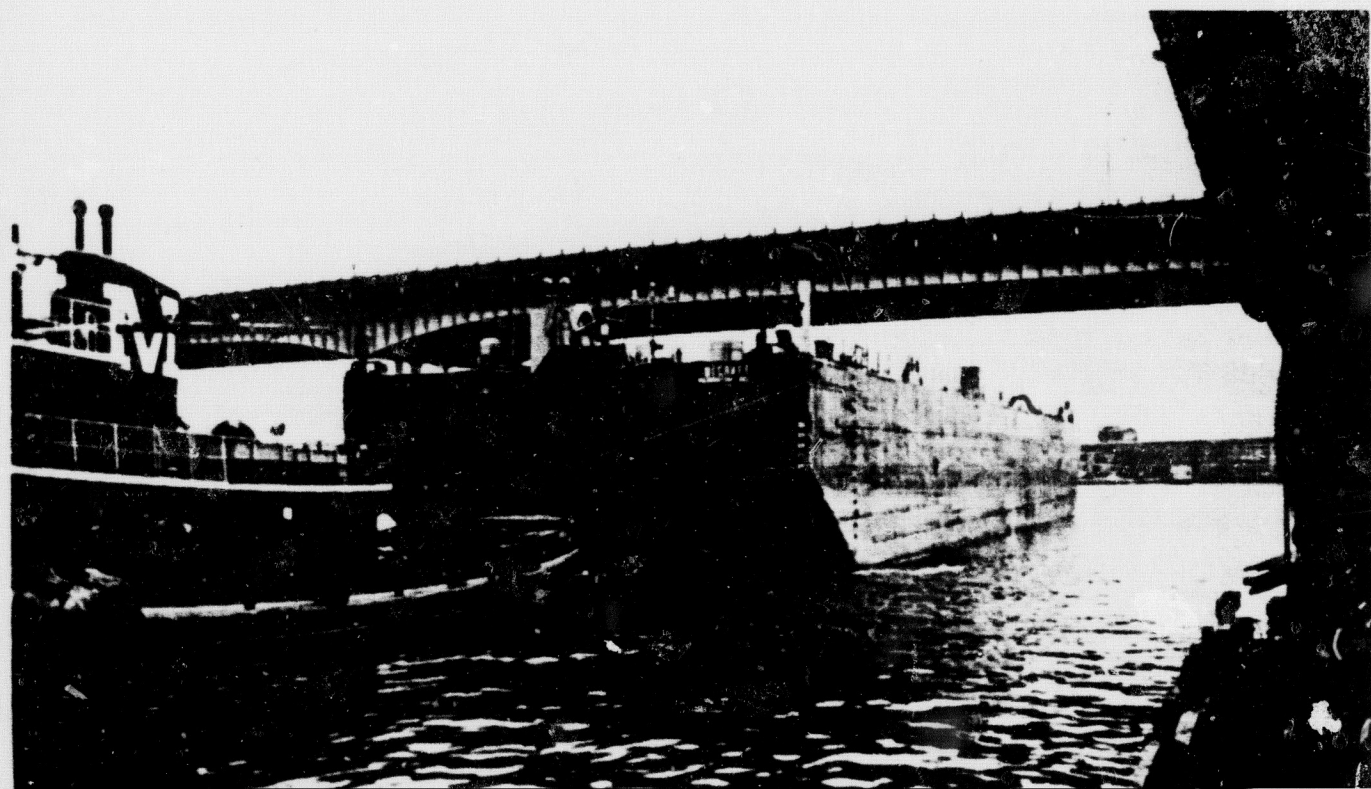
$$x = 2.544$$

E-20

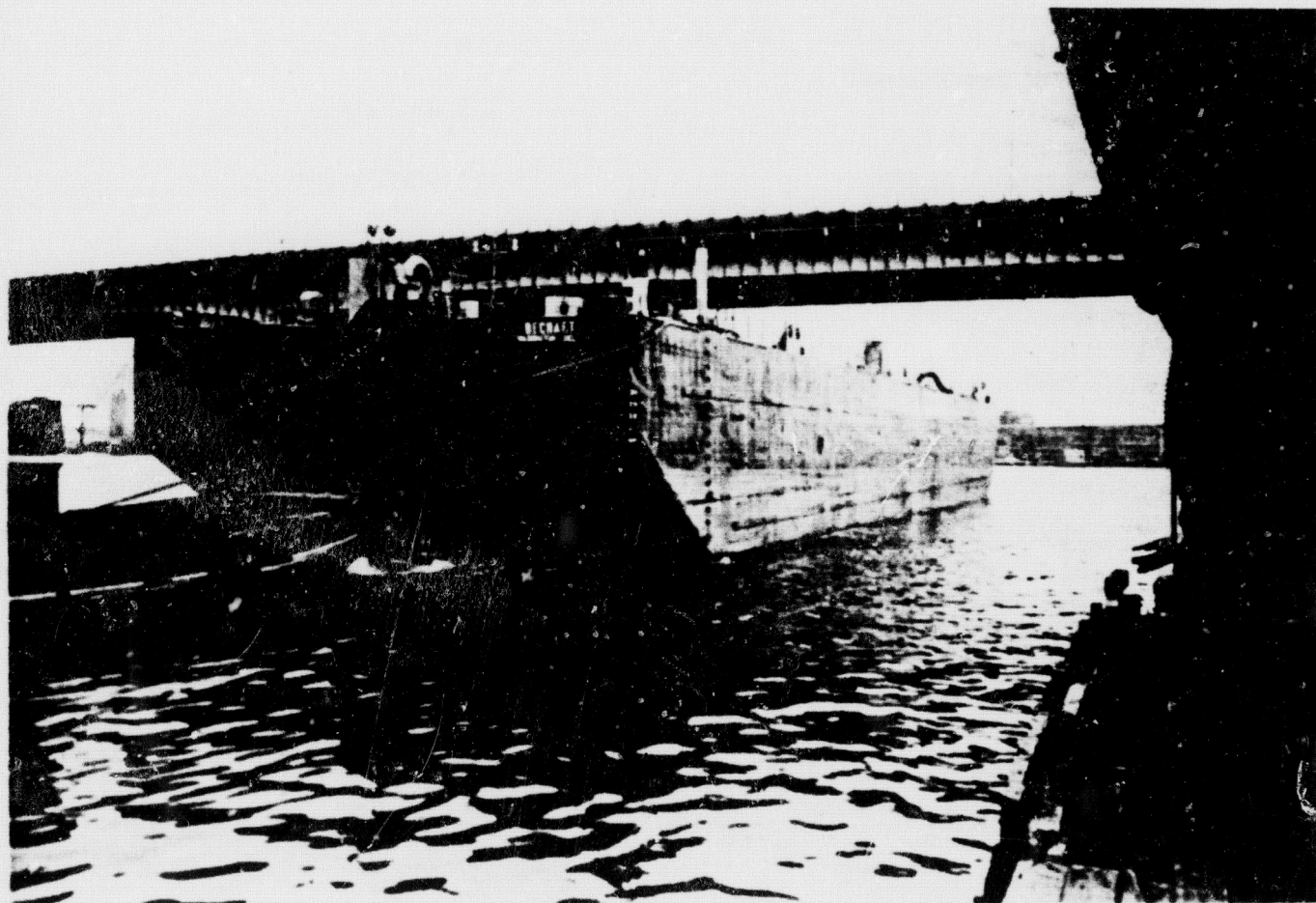
Exhibit C

Barge Transiting Draw (another occasion)
C (1)

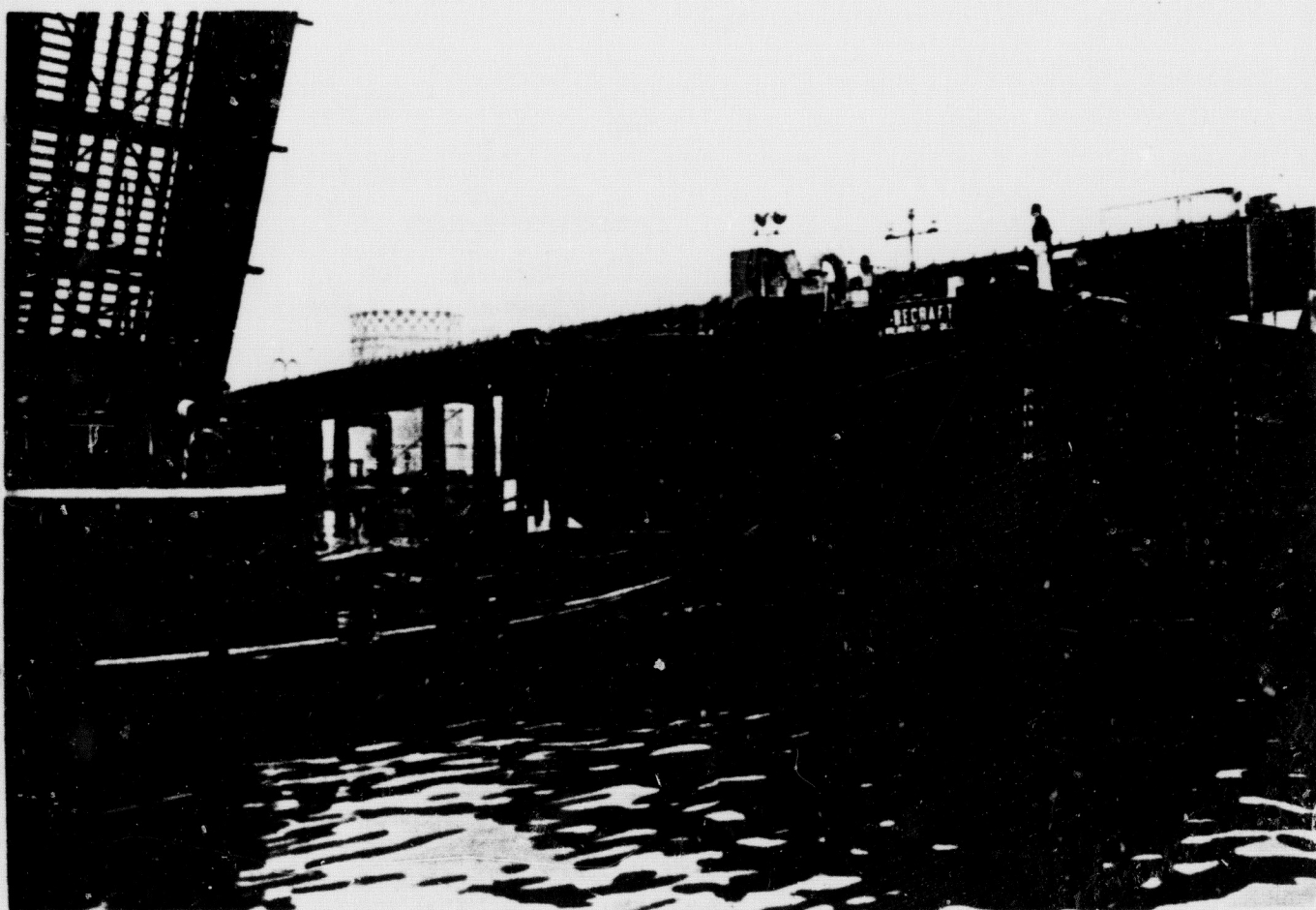




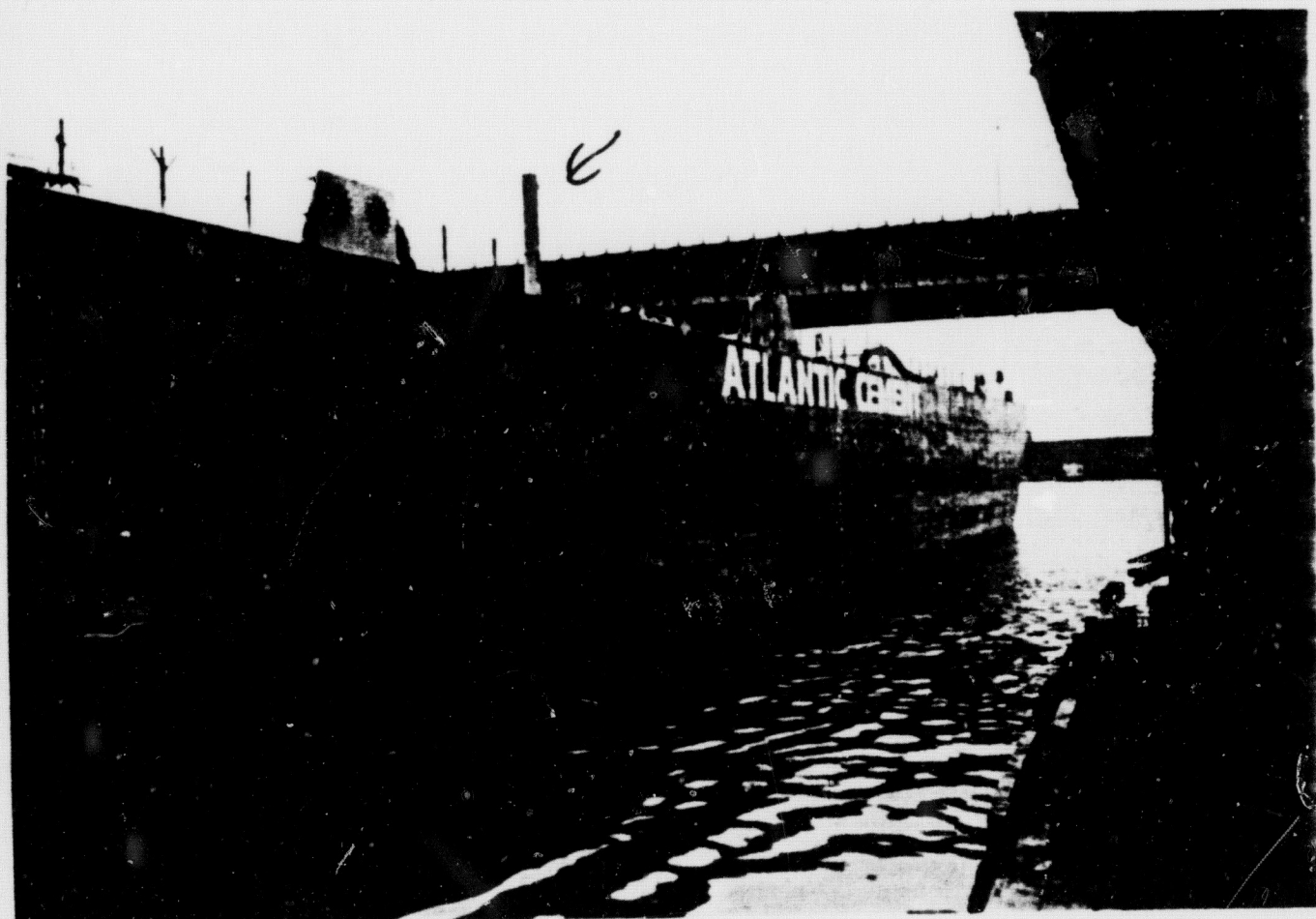
Barge Lifting from Unmoored Vessel



E-22
Exhibit C
Barge Transiting Draw (another occasion)
C [9]



E-23
Exhibit C
Barge Transiting Draw (another occasion)
C (4)



E-24
Exhibit C
Barge Transiting Draw (another occasion)
C [5]

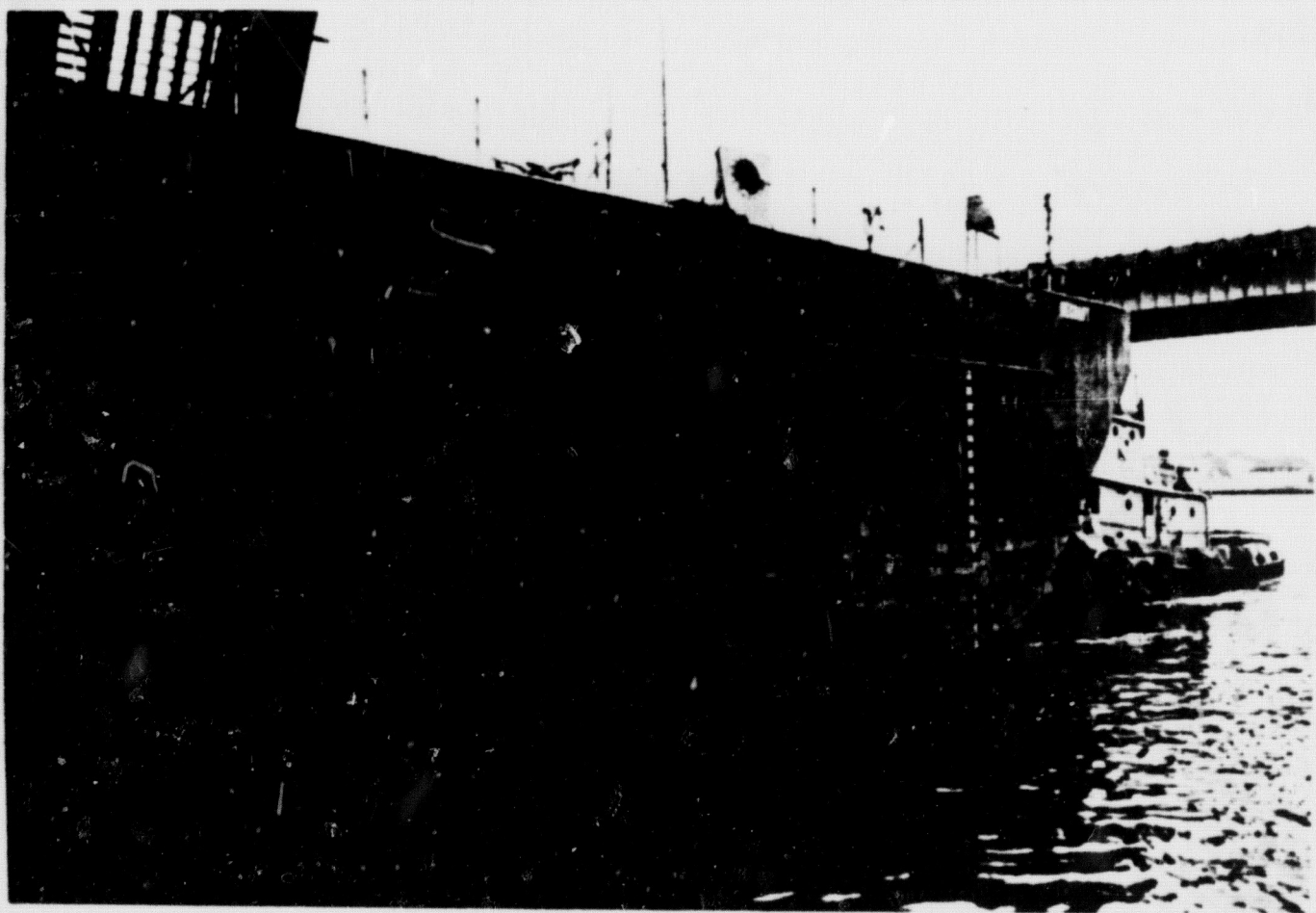


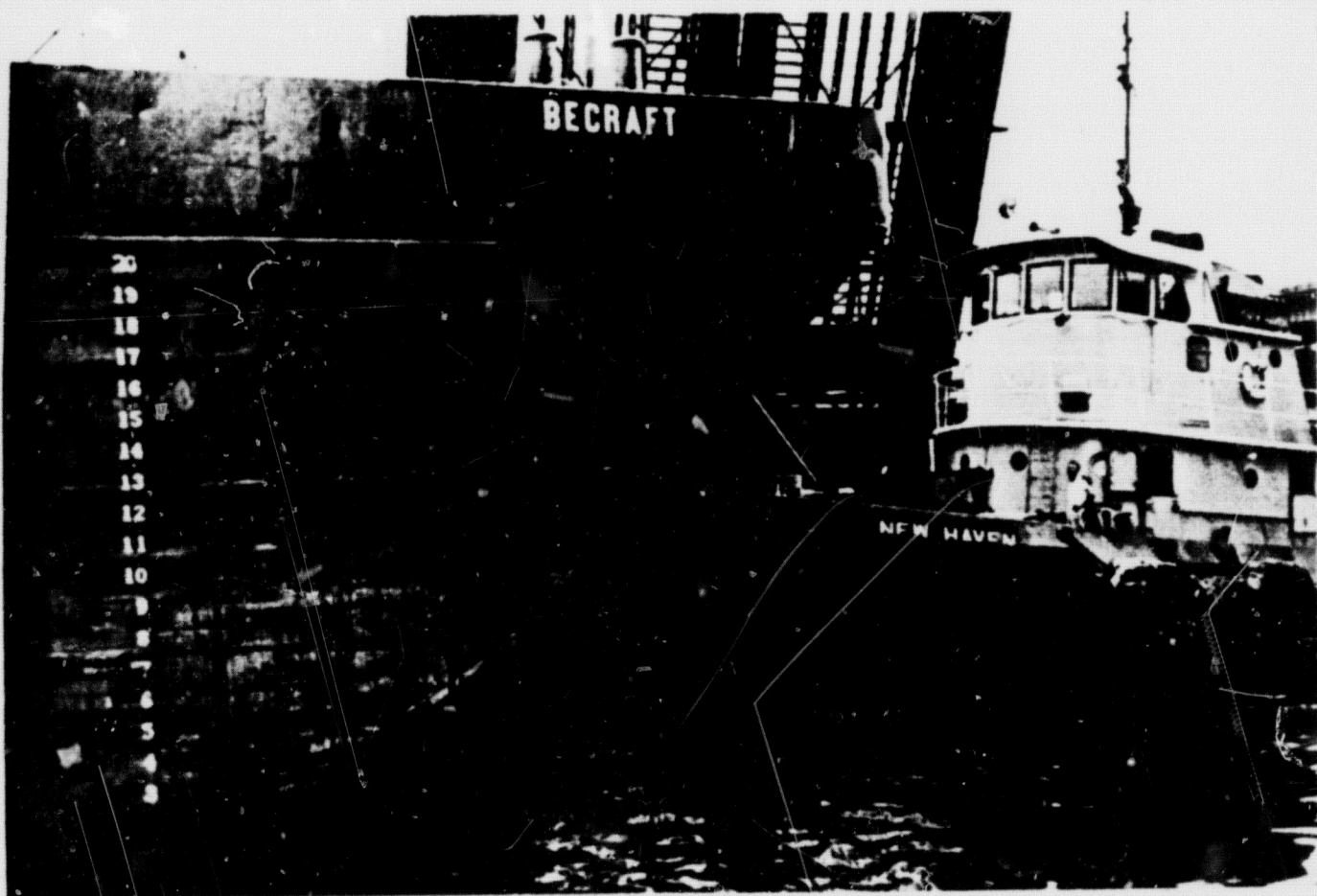
E-25
Exhibit C
Barge Transiting Draw (another occasion)
C [6]



E. 26
Exhibit C
Barge Transiting Draw (another occasion)
C [2]

E-27
Exhibit C
Barge Transiting Draw (another occasion)
C [8]





E-28
Exhibit C
Barge Transiting Draw (another occasion)
C [9]



E-29
Exhibit C
Barge Transiting Draw (another occasion)
C (10)

E-30
Exhibit J

BUSINESS (212) 943-3949
(201) 442-2870

Halboth Survey Report

RESIDENCE: (201) 741-6806

HENRY C. HALBOTH

MARINE SURVEYOR
175 SMITH STREET
PERTH AMBOY, N. J. 08861

June 19, 1972

*Closest Connecticut Halboth
Exhibit 5
D.M.*

Mr. Joseph F. Meseck, Jr.
Moran Towing & Transportation Co., Inc.
Suite 5335
One World Trade Center
New York, New York 10048

Subject: TOMLINSON BRIDGE
Struck by Barge "BECRAFT" in tow of
Tugs "DIANA L. MORAN" and "DEVON"
May 17, 1972

Dear Mr. Meseck:

In consonance with your instructions, the undersigned did, on May 19, 1972, attend survey at the Tomlinson Bridge. This structure spans the Quinnipiac River on US Highway No. 1 at New Haven, Connecticut, and was alleged to have been damaged on May 17, 1972, in consequence of having been struck by the Barge "BECRAFT" in tow of the Tugs "DIANA L. MORAN" and "DEVON".

The bridge is of the double leaf bascule span type, with three (3) fixed approach spans on each side. The bascule span consists of east and west bascule leaves, each comprised of four (4) fabricated girders, balanced about trunnions by concrete counter-weights. The roadway is of open steel grating over steel transverse beams, which latter are supported by steel stringers spanning from floor beam to floor beam; the floor beams are of truss or plate girder type and span between bascule girders.

At the survey of May 19, 1972, representatives of the State of Connecticut permitted examination of the damaged area by those interested parties in attendance. During this examination, the undersigned, acting independently, noted the following apparent damages to be existent:

1. Northeast girder of east bascule leaf (hereafter designated as No. 1) distorted from area of shoe upwards over a length of about 30-Ft, with maximum distortion and light tearing at point of apparent impact.
2. Truss floor beam structure at shoe level, between Nos. 1 and 2 east leaf bascule girders, buckled and distorted.
3. Truss floor beam structure at about 13-Ft level above shoes, between Nos. 1 and 2 east leaf bascule girders, buckled and distorted.
4. Horizontal cross bracing between lower girders of the foregoing floor beam trusses buckled and distorted.

E-31
Exhibit J
Halboth Survey Report

5. Truss floor beam structure at about 26-Ft level above shoes, between Nos. 1 and 2 east leaf bascule girders, buckled and distorted.

6. Northeast sidewalk cantilever support beam No. 2 from trunnion tower pulled down by distorted bascule girder; two (2) sidewalk longitudinal stringers distorted; sidewalk steel grating distorted and cement broken away; and, several sections of handrail adrift and/or distorted - all over a length of about 30-Ft.

7. Nos. 1-2-3-4 and 5 longitudinal stringers, as counted from northeast bascule girder and supporting roadway transverse beams, distorted over a length of about 30-Ft each. Condition of roadway grating, transverse beams, and associated appurtenances could not be assess at this time.

8. East bascule leaf section between Nos. 1 and 2 bascule girders, as in way of damaged structurals above, appears somewhat racked and will reportedly not fair with the west leaf on closing.

Note: Each bascule leaf includes four (4) girders and each girder is fitted with elevating gears. Each leaf may be separated into two (2) sections by cutting the transverse structurals between Nos. 2 and 3 bascule girders, and by singling up on elevation drive machinery. This has been done and the southeast half of the east leaf returned to operation; the northeast half has been immobilized in the elevated position pending repair, and was not lowered to provide access during survey.

9. One (1) transverse cross brace at the base of the south half of the east bascule leaf, i.e., between Nos. 3 and 4 bascule girders, fractured and broken.

It is to be emphasized that representatives of the State of Connecticut did not specifically point out damages considered by them to have been sustained and did not advance or discuss any proposals for intended repair. No basis for further liason was established and such survey as was attended, if any in fact is to be considered as held, was certainly most informal.

It was understood that extensive general overhaul of the Tomlinson Bridge had been intended in the immediate future, and that proposals for the work to be involved were in the solicitation process. During at least a part of the proposed refurbishing, separation of the bascule leaves was reportedly planned in the manner now accomplished on the east leaf consequent upon alleged casualty damage.

During our attendance, the point of structurally damaging impact was investigated and noted roughly to be situated on the northeast girder of the east bascule leaf, approximately 10-Ft above the girder steel shoe and 35-Ft above mean low water; the latter figure as deduced from the on site available General Plan I, Bridge Sheet 2 of 63, Project 92-160, and with the leaf at assumed elevation 65². With the bridge at present apparent full operating elevation, the point of contact visually is plumbed almost directly over the outer face of the existent fender system.

As respects the matter of elevation, it is our understanding that, although intermediate positions are at the operator's discretionary control, the bascule leaves are arbitrarily set for a maximum elevation of 65² by electrical limit switches, which abort further opening, regardless of the operator's intent. Representative limit switches, as designed to cut off power at the fully closed position were examined, however, those intended to limit elevation were not made accessible at survey.

Exhibit J

Halboth Survey Report

We are not in possession of the requisite support information, however, are inclined to the opinion that the elevation limit switches could reasonably be adjusted to permit greater than 65° opening, perhaps even to 90°. The latter, or a slightly lesser elevation would be required to provide the navigational clearance at channel level over the full bascule leaf height, when in open position.

The trunnion towers and foundations in way, which front the channel below the bascule leaves, are faced with a wood fender system. This fendering consists of approximately 8" x 10" wales, mounted over 12" x 12" posts, and sheathed on the channel side with 4" x 10" vertical timbers. The channel side of this fender is spaced 46" to 48" off the towers by horizontal timbers and cross bracing. Upstream and downstream from the towers, a generally similar approach rack is employed, with the wales and associated sheathing mounted to piling.

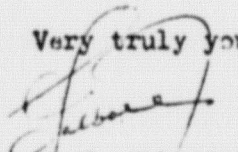
In the area of structurally damaging contact, i.e., beneath the northeast bascule girder, the fender is in poor condition; sheathing timber is missing and the fender is generally limber. Immediately upstream and in way the northeast tower foundation corner, the fender is entirely torn adrift and missing over a length of perhaps 20-Ft. No paint scrapings were noted on fender components and there were, in fact, several spikes protruding vertically from the upper waler immediately below the northeast girder which, if contacted, would have occasioned damage to the striking vessel or would have at least been flattened and paint marked.

The enclosed photographs are intended to better depict the foregoing structural damages and conditions existent in way of the fender system. Reference thereto is invited.

Repair costs have been variously reported in excess of \$500,000.00. We do not dispute this figure for reserve purposes, however, are of the opinion that appropriate costs can be developed only on the basis of full examination, agreement as to a reasonable mode of repair, and the preparation of specifications mutually agreeable to interested parties.

We are pleased to provide the foregoing preliminary information and enclosed photographs. It is our understanding that you desire us to maintain an open file in this matter, pending further developments.

Very truly yours,



H. C. Halboth

HCH:ash
Enclosures

BEST COPY AVAILABLE

COPY RECEIVED
JAN 23 1977
Bigham, Irph. ...